



107070-120.ST25.txt
SEQUENCE LISTING

<110> Hildt, Eberhard
Hofschneider, Peter
<120> Particles for Gene Therapy
<130> 107070-120 (VOS-013)
<140> US 09/890,752
<141> 2001-08-03
<150> PCT/DE00/00363
<151> 2000-02-04
<150> DE 199 04 800.2
<151> 1999-02-05
<160> 21
<170> PatentIn version 3.1
<210> 1
<211> 347
<212> PRT
<213> Artificial Sequence
<220>
<223> Fusion protein comprising a LHBS and heterologous binding site RGD
<400> 1
Met Gly Arg Gly Asp Gly Ala Gly Ala Phe Gly Leu Gly Phe Thr Pro
1 5 10 15
Pro His Gly Gly Leu Leu Gly Trp Ser Pro Gln Ala Gln Gly Ile Leu
20 25 30
Glu Thr Leu Pro Ala Asn Pro Pro Pro Ala Ser Thr Asn Arg Gln Ser
35 40 45
Gly Arg Gln Pro Thr Pro Leu Ser Pro Pro Leu Arg Asn Thr His Pro
50 55 60
Gln Ala Met Gln Trp Asn Ser Thr Thr Phe His Gln Thr Leu Gln Asp
65 70 75 80
Pro Arg Val Arg Gly Leu Tyr Phe Pro Ala Gly Ser Ser Ser Gly
85 90 95
Thr Val Asn Pro Val Pro Thr Thr Val Ser Pro Ile Ser Ser Ile Phe
100 105 110
Ser Arg Ile Gly Asp Pro Ala Leu Asn Met Glu Asn Ile Thr Ser Gly
115 120 125
Phe Leu Gly Pro Leu Leu Val Leu Gln Ala Gly Phe Phe Leu Leu Thr
130 135 140
Arg Ile Leu Thr Ile Pro Gln Ser Leu Asp Ser Trp Trp Thr Ser Leu
145 150 155 160

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Asn Phe Leu Gly Gly Thr Thr Val Cys Leu Gly Gln Asn Ser Gln Ser
165 170 175
Pro Thr Ser Asn His Ser Pro Thr Ser Cys Pro Pro Thr Cys Pro Gly
180 185 190
Tyr Arg Trp Met Cys Leu Arg Arg Phe Ile Ile Phe Leu Phe Ile Leu
195 200 205
Leu Leu Cys Leu Ile Phe Leu Leu Val Leu Leu Asp Tyr Gln Gly Met
210 215 220
Leu Pro Val Cys Pro Leu Ile Pro Gly Ser Ser Thr Thr Ser Thr Gly
225 230 235 240
Pro Cys Arg Thr Cys Thr Thr Pro Ala Gln Gly Thr Ser Met Tyr Pro
245 250 255
Ser Cys Cys Cys Thr Lys Pro Ser Asp Gly Asn Cys Thr Cys Ile Pro
260 265 270
Ile Pro Ser Ser Trp Ala Phe Gly Lys Phe Leu Trp Glu Trp Ala Ser
275 280 285
Ala Arg Phe Ser Trp Leu Ser Leu Leu Val Pro Phe Val Gln Trp Phe
290 295 300
Val Gly Leu Ser Pro Thr Val Trp Leu Ser Val Ile Trp Met Met Trp
305 310 315 320
Tyr Trp Gly Pro Ser Leu Tyr Ser Ile Leu Ser Pro Phe Leu Pro Leu
325 330 335
Leu Pro Ile Phe Phe Cys Leu Trp Val Tyr Ile
340 345

<210> 2
<211> 215
<212> PRT

<213> Artificial sequence

<220>

<223> Fusion protein comprising a HBCAg, a cell-permeability-mediating polypeptide and heterologous binding site RGD

<400> 2

Met Pro Leu Ser Ser Ile Phe Ser Arg Ile Gly Asp Pro Thr Val Gln
1 5 10 15

Ala Ser Lys Leu Cys Leu Gly Trp Leu Trp Gly Met Asp Ile Asp Pro
20 25 30

Tyr Lys Glu Phe Gly Ala Thr Val Glu Leu Leu Ser Phe Leu Pro Ser
35 40 45

Asp Phe Phe Pro Ser Val Arg Asp Leu Leu Asp Thr Ala Ser Ala Leu
50 55 60

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Tyr Arg Glu Ala Leu Glu Ser Pro Glu His Cys Ser Pro His His Thr
65 70 75 80

Ala Leu Arg Gln Ala Ile Leu Cys Trp Gly Glu Leu Met Thr Leu Ala
85 90 95

Thr Trp Val Gly Val Asn Leu Glu Asp Pro Glu Phe Arg Gly Asp Ala
100 105 110

Ser Arg Asp Leu Val Val Ser Tyr Val Asn Thr Asn Met Gly Leu Lys
115 120 125

Phe Arg Gln Leu Leu Trp Phe His Ile Ser Cys Leu Thr Phe Gly Arg
130 135 140

Glu Thr Val Ile Glu Tyr Leu Val Ser Phe Gly Val Trp Ile Arg Thr
145 150 155 160

Pro Pro Ala Tyr Arg Pro Pro Asn Ala Pro Ile Leu Ser Thr Leu Pro
165 170 175

Glu Thr Thr Val Val Arg Arg Arg Gly Arg Ser Pro Arg Arg Arg Thr
180 185 190

Pro Ser Pro Arg Arg Arg Ser Gln Ser Pro Arg Arg Arg Arg Ser
195 200 205

Gln Ser Arg Glu Pro Gln Cys
210 215

<210> 3
<211> 663
<212> DNA
<213> Artificial Sequence

<220>

<223> DNA coding for a fusion protein comprising a HBCAg, a cell-permeability-mediating polypeptide and heterologous binding site RGD

<400> 3
atgccatat cgtcaatctt ctcgaggatt ggggaccctg gatccactac tggcaagcc 60
tccaaagctgt gccttgggtg gctttggggc atggacatcg acccttataa agaatttgaa
gctactgtgg agttactctc gttttgcct tctgacttct ttccttcagt acgagatctt 120
ctagataccg cctcagctct gtatcggaa gccttagagt ctccctgagca ttgttcaccc
caccatactg cactcaggca agcaattctt tgctggggg aactaatgac tctagctacc
tgggtgggtg ttaatttggaa agatccagaa ttccgaggcg acgcgtctag agacctagta
gtcagttatg tcaacactaa tatgggccta aagttcaggc aactcttgc gtttcacatt
tcttgctca cttttggaaag agaaaccgtt atagagtatt tgggtcttt cggagtgtgg 180
attcgcactc ctccagctta tagaccacca aatgccccta tcctatcaac acttccggaa
actactgttg tttagacgacg aggcaaggcc cctagaagaa gaactccctc gcctcgcaga 240
360
420
480
540
600

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cgaaggctc aatcgccg	660
tcc	663

<210> 4
<211> 1047
<212> DNA
<213> Artificial Sequence

<220>
<223> DNA coding for a fusion protein comprising a LHBs and heterologous binding site RGD

<400> 4	60
atggccgtg gcbaaggagc tggagcattc gggctgggtt tcacccacc gcacggaggc	60
ctttgggtt ggagccctca ggctcagggc atactacaaa ctttgcagc aaatccgcct	120
cctgcctcca ccaatgcaca gacaggaagg cagcctaccc cgctgtctcc accttgaga	180
aacactcatc ctcaggccat gcagtggaat tccacaacct ttcaccaaac tctgcaagat	240
cccagagtga gaggcctgta tttccctgct ggtggctcca gttcaggagc agtaaaccct	300
gttccgacta ctgcctctcc cttatcgta atcttctcgta ggattgggga ccctgcgt	360
aacatggaga acatcacatc aggattccta ggacccttc tcgtgttaca ggccgggtt	420
ttcttgtga caagaatcct cacaataccg cagagtctag actcgtggtg gacttctctc	480
aattttctag gggaaactac cgtgtgtctt ggccaaaatt cgcagtcccc aacctccaaat	540
cactcaccaa ctcctgtcc tccaacttgt cctggttatc gctggatgtg tctgcggcgt	600
tttatcatct tcctcttcat cctgctgcta tgcctcatct tcttgggt tcttctggac	660
tatcaaggta tttgcccgt ttgtcctcta attccaggat cctcaaccac cagcacggga	720
ccatgccaa cctgcatgac tactgctcaa ggaacctcta tgtatccctc ctgttgctgt	780
accaaaccctt cggacggaaa ttgcacctgt attcccatcc catcatcctg ggcttcgga	840
aaattcctat gggagtgggc ctcagccgt ttctcctggc tcagttact agtgcattt	900
gttcagtggt tcgtagggt ttccccact gtttggctt cagttatatg gatgatgtgg	960
tattgggggc caagtctgta cagcatctt agtcccttt taccgctgtt accaatttc	1020
ttttgtcttt gggatacat ttaaacc	1047

<210> 5
<211> 35
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 5

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ccatattctt ggaaacaaga tatccagcac gggc 35

<210> 6
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 6
ggattgctgg tggaaagatat ctgccccgtg ctg 33

<210> 7
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 7
cagcacgggg cagatatctt ccaccagcaa tcc 33

<210> 8
<211> 38
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 8
gccccgtgct ggatatcatc ttgttcccaa gaatatgg 38

<210> 9
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 9
aaaagatctg gccgtggcga aggagctgga gcattc 36

<210> 10
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 10
aaaagatctg gtttaaatgt atacccaaag 30

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<210> 11
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 11
cccgatatca tgtcatctct tgttcatgtc cta 33

<210> 12
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 12
ggggatatatcg gtcgatgtcc atgccccaaa 30

<210> 13
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 13
gggggatccc gatgtacggg ccagatatac gcgttg 36

<210> 14
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 14
gggggatccg cggccgcctt acttgta 27

<210> 15
<211> 57
<212> DNA
<213> Artificial Sequence

<220>
<223> DNA coding for a cell-permeability mediating peptide

<220>
<221> misc_feature
<222> (1)..(57)
<223> Nucleotides 1-3 and 55-57 are "n" wherein "n" = any nucleotide.

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<400> 15
nnnagatcta tgcccatatc gtcaatcttc tcgaggattg gggaccctgg atccnnn 57

<210> 16
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<220>
<221> misc_feature
<222> (1)..(3)
<223> Nucleotides 1-3 "n" wherein "n" = any nucleotide.

<400> 16
nnngatcca ctgttcaagc ctccaaagctg 30

<210> 17
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<220>
<221> misc_feature
<222> (1)..(3)
<223> Nucleotides 1-3 "n" wherein "n" = any nucleotide.

<400> 17
nnngaattct ggatcttcca aattaacacc caccca 36

<210> 18
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<220>
<221> misc_feature
<222> (1)..(3)
<223> Nucleotides 1-3 "n" wherein "n" = any nucleotide.

<400> 18
nnngaattcc gaggcgacgc gtctagagac ctagtagtc 39

<210> 19
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

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<220>
<221> misc_feature
<222> (1)..(3)
<223> Nucleotides 1-3 "n" wherein "n" = any nucleotide.

<400> 19
nnnaagcttt ccccacctta tgagtccaag 30

<210> 20
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> cell permeability-mediating peptide

<400> 20

Pro Leu Ser Ser Ile Phe Ser Arg Ile Gly Asp Pro
1 5 10

<210> 21
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> DNA encoding cell permeability-mediating peptide

<400> 21
cccatatcgt caatcttc gaggattggg gaccct 36